#### **DOCKET FILE COPY ORIGINAL**



### Public Safety Wireless Network

Saving Lives and Property Through Improved Interoperability

April 15, 2003

RECEIVED

Ms. Marlene H. Dortch Secretary Federal Communications Commission 445 Twelfth Street, SW 12th St. Lobby, TW-A325 Washington, DC 20554

APR 1 5 2003

Federal Communications Commission Office of Secretary

Re: Reply Comments to the Commission's Notice of Proposed Rulemaking and Order, In the Matter of Amendment of the Commission's Rules Regarding Dedicated Short-Range Communication Services in the 5.850–5.925 GHz Band (5.9 GHz Band), [and] Amendment of Parts 2 and 90 of the Commissiun's Rules to Allocate the 5.850–5.925 GHz Bond to the Mobile Service for Dedicated Short-Range Communications & Intelligent Transportation Services, WT Docket No. 01-90, ET Docket No. 98-95, RM 9096.

Dear Ma. Dortch:

On behalf of the Public Safety Wireless Network (PSWN) Program and pursuant to Section 1.51 of the Commission's Rules, 47 C.F.R. § 1.51 (2002), enclosed herewith for filing are an original and four (4) copies of the PSWN Program's Reply Comments in the above-referenced proceeding(s).

Kindly date-stamp and return the additional, marked copy of this cover letter and filing to the person delivering it.

Should you require any additional information, please contact the undersigned.

Respectfully submitted,

Steven Proctor

Executive Director,

Utah Communications Agency Network

twent Proctal

Executive Vice-Chair,

**PSWN** Executive Committee

RECEIVED

# Before the Federal Communications Commission Washington, DC 20554

APR 1 5 2003

ederal Communications Commission
Office c: Secretary

)	Office c: Secretary
) WT <b>Docket</b> No. <b>01–90</b>	
)	
)	
) ET Docket No. 98-95	
) RM-9096	
)	
)	
)	
	) ) ) ET Docket No. 98-95

To: The Commission

### REPLY COMMENTS OF THE PUBLIC SAFETY WIRELESS NETWORK

Filed hy The Public Safety Wireless Network Program

Date April 15,2003

# Before the Federal Communications Commission Washington, DC 20554

In the Matter of	)
Amendment of the Commission's Rules	) WT Docket No. 01–90
Regarding Dedicated Short-Range Communication	)
Services in the 5.850–5.925 GHz Band (5.9 GHz	)
Band)	)
	)
Amendment of Parts 2 and 90 of the Commission's	ET Docket No. 98-95
Rules to Allocate the 5.850-5.925 GHz Band to the	e) RM-9096
Mobile Service for Dedicated Short-Range	)
Communications of Intelligent Transportation	)
Services	)

### REPLY COMMENTS OF THE PUBLIC SAFETY WIRELESS NETWORK

The Public Safety Wireless Network (PSWN) Program' Executive Committee (EC) respectfully offers the following Reply Comments for the Commission in response to the Notice of Proposed Rulemaking and Order' (NPRM&O) adopted by the Federal Communications Commission (Commission) pursuant to WT Docket No. 01–90. The PSWN Program notes that the Commission has received only a small volume of comments pertaining to this rulemaking and only a few of the recommendations submitted were from public safety agencies, government

<sup>&</sup>lt;sup>1</sup>The PSWN Program is a federally funded initiative operating on behalf of all local, state, federal, and tribal public safety agencies. The Department of Justice and the Department of Homeland Security are jointly leading the PSWN Program's efforts to plan and foster interoperability among public safely wireless networks. The PSWN Program is a 10-year initiative that is an effort to ensure that no man, woman, or child loses his or her life because public safety officials cannot talk mone another.

<sup>~</sup> See NPRM&O. In the Matter of Ailiendmoni of the Commission's Rules Regarding Dedicated Short-Range Communication Services in the 5.850–5.925 GHz Band (5.9 GHz Band). [and] Amendment of Pairs 2 and 90 of the Commission's Rules to Allocate the 5.850–5.925 GHz Band to the Mobile Service for Dedicated Short-Range Communications of Intelligent Transportation Services. WT Docket No. 01-90, ET Docket No. 98-95, RM 9096. FCC 02-302, ref. November 15, 2002 (DSRC NPRM&O).

authorities, and groups that represent them.<sup>3</sup> It is of critical importance that the Commission takes note of the advice that has been offered by that limited group of participants that denionstrate their familiarity and concern with the applications being discussed in this rulemakinp proceeding.

### I. BACKGROUND

- 2. For the past 5 years, the Commission has worked in cooperation with the United States

  Department of Transportation (DOT) to develop service rules and deploy dedicated short-range
  communications (DSRC) technology to accomplish the objective of improved traffic safety.

  The Intelligent Transportation Society of America (JTS-A) successfully petitioned the
  Coinmission for spectrum in the 5.9 gigahertz (GHz) band to support the development and
  eventual deployment of DSRC applications.' Since that time, several valuable applications have
  been developed that could enhance public safety capabilities and provide for greater protection
  and security for travelers and merchants using our Nation's highways and surface transportation
  infrastructure.
- The challenges faced by the Commission in incorporating DSRC applications into existing spectrum policy and licensing rules are formidable. The Commission must remain vigilant that adoption and implementation of this technology does not conflict with existing licensees and spectrum usage by creating interference in neighboring bands. In addition, the PSWN Program is also aware of the multitude of issues facing manufacturers, vendors, and users of this promising service in developing, testing, and finally deploying DSRC systems.

<sup>&</sup>lt;sup>3</sup> Of the 30 comments received to date on the NPRM&O released in November 2002, WT Docket 01-90 and E1 Docket No. 98-95, 12 have been from public safety-oriented agencies, government, and associations that have submitted comments on their behalf.

<sup>\*</sup> See Pub. L. 105-178, June 9, 1998, 23 U.S.C. § 5206.

### II. STATEMENT OF INTEREST

4. The PSWN Program has followed developing trends in the DSRC arena since the Commission first announced the establishment of this docket. Initially, the PSWN Program voiced concerns that the spectrum allocated in the 5.9 GHz band for DSRC services would be considered fulfillment of part of the needed public safety spectrum identified in the Public Safety Wireless Advisory Committee (PSWAC) Report.' ITS-A emphasized in its Reply Comments that the Commission should not identify this spectrum as realizing the recommendations made in the PSWAC Report for additional spectrum to be made available in support of public safety operations.' With that caveat, the PSWN Program supports the adoption & DSRC technology in the 5.9 GHz band. If properly implemented, DSRC will serve to promote traffic safety and provide public safety personnel with additional tools to aid in the protection of life and property by securing the Nation's highways from possible danger due to weather-related road conditions, accidents, congestion, and emergencies.

### III. DISCUSSION

## A. The 5.Y GHz DSRC Band Should Primarily Be Used to Support Public Safety Services

5. The PSWN Program agrees with commenters to this rulemaking proceeding that support the designation of the 5.9 GHz band for primary use by public safety users, and that "the

<sup>&</sup>lt;sup>5</sup> See Allocation Report and Order. 14 FCC Rcd 18221 et seq.

<sup>&</sup>lt;sup>o</sup> See DA-01-1047, Wireless Telecommunications Bureau Annnuncos That Record Regarding "Status Report on Licensing and Service Issues and Deployment Strategies Tor DSRC-Based Intelligent Transportation Services in the 5.850-5.925 GHz Band' is Available on the Electronic Comment Filing System (ECFS), rel. April 24, 2001.

See Reply Comments in Response to the Comments of Other Parties of the **PSWN** Program on the ITS-A Status Report On Licensing and Service Issues and Deployment Strategies For **DSRC-Based** intelligent Transportation Services in the 5 850-5 925 **GHz Band**. WT Docket Nu. 01-90. May 31, 2001, at pp. 3-4.

<sup>&</sup>lt;sup>8</sup> "ITS America understands PSWN's concern that any DSRC spectrum designated for 'public safety' usage not mistakenly be taken as a substitute for other critically needed public safely spectrum." *See* Reply Comments of the Intelligent 'Transportation Society of America, In the Matter of America of the Commission's Rules Regarding Dedicated Short-Range Communication Services in the 5 850–5.925 GHz Band (5.9 GHz Band), WT Docket No. 01-90. May 31, 2001, at p. 5.

principal purpose of DSRC must be to promote public safety on the nation's highways." In addition, the PSWN Program supports the proposition that would limit eligibility for secondary use of this band to non-public safety entities that do not charge a fee for their services, i.e. non-commercial DSRC providers. Such internal and other not-for-profit uses of DSRC spectrum should only be permitted on a secondary basis to public safety users." The PSWN Program also agrees with the recommendations of NATOAMLC that would make such non-public safety use conditional on the premise that "[a]ny secondary use of this spectrum must be terminated immediately if needed by primary applications. Likewise, any interference caused to primary users by secondary users must lead to a cessation of secondary use until the cause of interference is removed."" The PSWN Program also notes its agreement with the comments of the American Association of State Highway and Transportation Officials Special Committee on Wireless Technology that, in those cases where interference with public safety DSRC operations is detected, the secondary non-public safety users should be obliged to rectify those issuer."

6. The PSWN Program also agrees with parties who assert that if the Commission chooses to license noti-public safery application, on the 5.9 GHz band, it should also partition that spectrum to separate those users from public safety operations." In that way, the Commission can preemptively reduce the possibility of interference and congestion limiting the effectiveness of DSRC systems for public safety and traffic safety purposes. This action would prevent

<sup>&</sup>lt;sup>4</sup> See Comments of the Port Authority of New York and New Jersey, Tunnels Bridges and Terminals Deportment, NPRM&O. WT Docket No. 01-90. ET Docket No. 98-95, RM 9096, March 17. 2003 (PA-TBT Comments), at p. 1 See also Comments of the E-Z Pass Interagency Group. NPRM&O. WT Docket No. 01-90, ET Docket No. 98-95. RM 9096, March 17, 2003, (E-Z Pass Comments) ai p. iii, 4; Comments of the New York Slate Thruway Authority. NPRM&O. WT Docket No. 01-90. ET Docket No. 98-95. RM 9096 (NYS Thruway Authority Comments), March 17, 2003, iii p. 5.

<sup>&</sup>lt;sup>10</sup> **Set'.** e.g., Comments of the National Association of Telecommunications Officers and Advisors (*NATAO*) and the National League of Cities (*NLC*), NPRM&O, WT Docket No. 01-90, ET Docket No. 98-95, RM 9096, March 17, 1003 (*NATOA/NLC Comments*) at p.?; PA-TBT Comments March 17, 2003, at p. 2.

<sup>11</sup> NATOA/NLC Comments, March 17, 2003, at p. 5.

<sup>&</sup>lt;sup>12</sup> Comments of the American Association of State Highway and Transportation Officials Special Committee on Wireless Technology, NPRM&O, WT Docket No. 01-90, ET Docket No. 98-95, RM 9096, (AASHTO Comments) March 12, 2003, at p. 5.

<sup>&</sup>lt;sup>13</sup> See NATAO/NLC Comments at p. **9** 

duplicating the undesirable outcome created by allowing competing architecture and applications to operate in close proximity, using interleaved spectrum and resulting in unnecessary time and expense as incurred by users in the 800 megahertz (MHz) band. Moreover, the PSWN Program reasserts that the majority of the spectrum allocated to support DSRC technology should be earmarked for public safety use, with the remainder held in reserve or dedicated to non-public safety applications.

### B. The Definition of Public Safety Services Should Remain Consistent with Section 309 of the Communications Act

7. The PSWN Program advocates that the Commission continue to use the current definition of "public safety services" as articulated in § 309 of the Communications Act of 1934. <sup>14</sup> As other commenters have affirmed, "[a]n acknowledgement that public safety as defined is not limited to fire, police, and ambulance services is needed."

### C. Adoption of a Standard Would Hasten Deployment and Promote Interoperability

8. The PSWN Program agrees with those parties submitting responses to this docket that urge the Commission to adopt a single standard for DSRC that would apply to both public safety and non-public safety applications. General consensus among the public safety organizations that have submitted recommendations on this docket endorses an open standard to facilitate development *of* new applications by reaching a wider market, and to hasten deployment *of* public safety applications. The PSWN Program asserts that adoption of a single American National Standards Institute-approved suite of standards would not inhibit technological

<sup>15</sup> Comments of Delaware Department of Transportation, In the Matter of Amendment of the Commission's Rules Regarding Dedicated Short-Range Communication Services in the 5.850–5.925 GHz Band (5.9 GHz Band), WT Docket No. 01-90, March. 14, 2003, at p. 2.

<sup>&</sup>lt;sup>14</sup> **37** USC § 309 (j)(2)

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 8: AASHTO Comments. March 12.2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 8: AASHTO Comments. March 12.2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 8: AASHTO Comments. March 12.2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments. March 12.2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 17, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

See, e.g. NATOA/NLC Comments, March 12, 2003, at p. 3

advancement of DSRC systems. nor should it impair competition. However, the Commission should also regularly review this standard and modify it as necessary to ensure it remains current and accommodate the development of new applications. As ITS-A points out, this regular scrutiny will also help to enable the Cornmission to coordinate consistent policies with DOT for the development and deployment of DSRC.<sup>18</sup> In addition, the PSWN Program agrees with ARINC in supporting type certification of DSRC equipment to ensure compliance with the Commission's Rules.<sup>19</sup>

### D. Flexible Licensing Policies Would Promote Interoperability

9. In its comments of March 17,2003, the PSWN Program endorsed a geographic licensing plan for the regulation of DSRC technology. The PSWN Program noted that the appropriate size of the licensing area should vary based on the kind of application being contemplated. The PSWN Program also finds the arguments of ITS-A and others for a site-based licensing policy to he persuasive.'" The PSWN Program renews its previous recommendations for the Commission to consider a policy that would provide for some agencies, such as toll authorities, that "are responsible for a large number of facilities across significant distances...to obtain a 'corridor' license encompassing all its activities." The PSWN Program asserts that a plan that combines licensing by rule for on-board units. site-specific licensing, and geographic licensing, all based on the type of entity and application being regulated would he both feasible and effective.

# E. The Commission Should Modify the Definition of DSRC to Take Appropriate Advantage of This Technology

- 1. Permit DSRC Technology to Support Voice Applications in the 5.9 GHz Band
- The Commission also requested comments regarding whether it should allow DSRC

<sup>&</sup>lt;sup>18</sup> ITS-A Comments. March 17, 2003, at p. 6.

<sup>&</sup>lt;sup>13</sup> Comments of Aeronautical Radio, Inc. (AERINC), WT Docket No. 01-90, ET Docket No. 98-95, RM 9096 (ARINC Comments), March 14, 2003, at p. 7.

<sup>&</sup>lt;sup>20</sup> ITS-A Comments, March 17, 2003, at p. 15; ARINC Comments at p. 12.

<sup>&</sup>lt;sup>21</sup> MTA Comments, March 17, 2003, at p. 2; NYS Thruway Authority Comments, at p. 9.

services on the 5.9 GHz band to be used for transmitting voice communications in addition to transferring data. The PSWN Program supports permitting voice communications on the local area network (LAN) architecture to be used for the implementation of DSRC technology, and therefore agrees with those parties submitting comments on this docket that recommend that the Commission delete the phrase "non-voice" from its Rules pertaining to DSRC. The Commission should furnish manufacturers with the opportunity to thoroughly explore the use of DSRC systems to achieve their fullest potential.

### 2. Commercial Use of DSRC Technology on the 5.9 GHz Band Should Not Be Permitted

The Cornmission also requested comments regarding the adoption of the term "private environments" in place of the current regulation permitting "commercial environments." The PSWN Program reiterates its support for the revised definition proffered by ITS-A to change that definition and to restrict use of DSRC. technology on the 5.9 GHz band to not-for-profit entities noting that "the band is neither appropriate nor intended for cellular-based commercial applications such as CMRS."" If the Commission is inclined to permit the use of telematics for commercial entities, it should use other spectrum so that those operations will not pose a threat to the reliability of compelling traffic safety and public safety objectives.

# F. The Commission Should Only Require Pre-Coordination of DSRC Services to Verify Non-Interference with Sensitive Operations

The Commission also requested comments with I-cspect to the necessity of prior coordination between all DSRC-based intelligent transportation systems (ITS) and fixed satellite sei-vices (FSS). The PSWN Program concurs with ITS-A that requiring prior coordination in all

7

DSRC NPRM&O, WT Docket No. 01-90, ET Docket Nn. 98-95. KM 9096, at para. 15.

<sup>&</sup>lt;sup>23</sup> See, e.g., AASHTO Comments, March 12, 2003, at p. 4; ARINC Comments, March 14, 2003, at p. 2; NATAO/NLC Comments, March 17, 2003, at p. 2.

<sup>&</sup>lt;sup>24</sup> DSRC NPRM&O, WT Docket No. 01-90, ET Docket No. 98-95, RM 9096, at para. 13.

<sup>&</sup>lt;sup>25</sup> ITS-A Comments, **March** 17, 2003, ai pp. 20–21.

cases would create an onerous cost and unnecessary burden.<sup>26</sup> and should be required only in cases where DSKC will operate nearby other sensitive and safety-of-life applications, such as FSS. Regarding an alternative to mandatory coordination, the PSWN Program also agrees with parties recommending that the Coinmission should work with local licensing authorities nationwide to compile a database that would store user information including geographic data to easily catalog the locations and identities of all DSRC systems.<sup>27</sup> This comprehensive record could help primary licensees obtain a fast remedy in those cases where conflicting secondary applications create interference and could negatively impact public safety, traffic safety, and other crucial functions taking place in the 5.9 GHz band.

### IV. CONCLUSION

The PSWN Program appreciates this opportunity to provide additional information on for the Commission's consideration in developing service rules and policies for the deployment of DSRC-based JTS technology in the 5.9 GHz band. The Commission should use this rulemaking to reinforce the commitment it has made to support public safety communications by ensuring the primary use of this band will be for improvement of traffic safety and the security of highways and infrastructure. The PSWN Program acknowledges the contributions of the parties that have pi-ovided their insights to assist the Commission in developing service rules, policies.

8

<sup>&</sup>lt;sup>26</sup> Comments of ITS America on the Petition for Clarification of Mark IV Industries, Ltd., IVHS Division ("Mark IV"), and the Petition for Reconsideration or Clarification of Panamsat Corporation (Panamsat), RM 9096, ET Docket No. 98-95. March 2, 2000, at p. 2.

<sup>&</sup>lt;sup>27</sup> AASHTO Comments, March 12, 2003, at p. 3.

and procedures that will make the most of the spectral assets available on this hand to protect life and properly.

Respectfully submitted,

Steven Proctor

Executive Director,

Utah Communications Agency Network

Executive Vice-Chair,

**PSWN** Executive Committee

Someret Proctal

### Before the Federal Communications Commission Washington, DC 20554

#### **Certificate of Service**

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	WT Docket No. 01–90
Regarding Dedicated Short-Range Communication	n)	
Services in the 5.850–5.925 GHz Band (5.9 GHz	)	
Band)	)	
	)	
Amendment of Parts 2 and 90 of the Commission'	s )	ET Docket No. 98-95
Rules to Allocate the 5.850-5.925 GHz Band to the	ne)	RM-9096
Mobile Service for Dedicated Short-Range	)	
Communications of Intelligent Transportation	)	
Services	)	

I, Richard N. Allen, Senior Associate, Booz Allen Hamilton, 8283 Greensboro Drive, McLean, Virginia, 22102–3838, hereby certify that on this date I caused to be served, by first-class mail, postage prepaid (or by hand where noted) copies of the Public Safety Wireless Network Program's Reply Comments, In the Matter of Amendment of the Commission's Rules Regarding Dedicated Short-Range Communication Services in the 5.850–5.925 GHz Band (5.9 GHz Band), [and] Amendment of Parts 2 and 90 of the Commission's Rules to Allocate ihe 5.850–5.925 GHz Band in the Mobile Service for Dedicated Short-Range Communications of Intelligent Transportation Services, WT Docket No. 01–90 and ET Docket No. 98-95, the original of which is filed herewith and upon the parties identified on the attached service list.

DATED at Fair Oaks, Virginia this 15th day of April 2003

Richard N. Allen

### **SERVICE LIST**

The Honorable Michael Powell, Chairman Federal Communications Commission 445 12th St., SW, Rm. 8–B201 Washington, DC 20554

The Honorable Kathleen Q. Abernathy, Commissioner Federal Communications Commission 445 12th St., SW, Rm. 8–B115 Washington, DC 20554

The Honorable Michael J. Copps, Commissioner Federal Communications Commission 445 12th St., SW, Rm. 8–A302 Washington, DC 20554

The Honorable Kevin J. Martin, Commissioner Federal Communications Commission 345 12th St., SW, Rm. 8–A204 Washington, DC 20554

The Honorable Jonathan S. Adelstein Federal Communications Coinmission 445 12th St., SW, Rm. 8-C302 Washington. DC 20554

Marsha J. MacBride, Chief of Staff Office of Chairman Powell Federal Communications Commission 445 12th St., SW, Rm. 8–B20! Washington, DC 20554

Bryan Tramont, Senior Legal Advisor Office of Chairman Powell Federal Communications Commission 445 12th St., SW, Rin, 8–B201 Washington, DC 20554

Matthew Brill, Senior Legal Advisor Office of Commissioner Abernathy Federal Communications Commission 445 12th St., SW, Rm, 8–B115 Washington, DC 20554 Jordan Goldstein, Senior Legal Advisoi Office of Commissioner Copps Federal Cominunications Coinmission 445 12th St., SW, Rm. 8-A302 Washington, DC 20554

Paul Margie, Spectrum and International Legal Advisor Office of Commissioner Copps Federal Cominunications Commission 445 12th St., SW, Rm. 8–A302 Washinglon, DC 20554

Daniel Gonzalez, Senior Legal Advisor Office of Commissioner Martin Federal Communications Commission 445 12th St., SW, Rm. 8–C302 Washington, DC 20554

Samuel Feder, Legal Advisor on Spectrum Issues Office of Commissioner Martin Federal Communications Commission 445 12th St., SW, Rm. 8–C302 Washington, DC 20554

Lisa Zaina, Senior Legal Advisor Office of Commissioner Adelstein Federal Communications Commission 445 12th St., SW, Rm. 8–C302E Washington, DC 20554

Barry Ohlson. Interim Legal Advisor for Wireless Issues Office of Commissioner Adelstein Federal Communications Commission 445 12th St., SW, Rm. 8–C302B Washington, DC 20554

John Mulera, Chief Wireless Telecommunications Bureau Federal Communications Commission 445 12th St., SW, Rm, 3–C252 Washington, DC 20554 Catherine W. Seidel, Deputy Chief Wireless Telecommunications Bureau Federal Communications Commission 445 12th St., SW, Rm. 3–C220 Washington, DC 20554

Kathleen O'Brien-Ham, Deputy Chief Office Strategic Planning and Policy Analysis Federal Communications Commission 445 12th St., SW. Rm. 3–C255 Washington, DC 20554

James D. Schlichting, Deputy Chief Office of Engineering and Technology Federal Communications Commission 445 12th St., SW, Rm. 7–C115 Washington, DC 20554

Gerald P. Vaughan, Deputy Chief Wireless Telecommunications Bureau Federal Communications Commission 445 12th Si., SW, Rm. 3–C250 Washington. DC 20554

David Furth. Associate Bureau Chief and Senior Legal Advisor Wireless Telecommunications Bureau Federal Communications Commission 445 12th St., SW, Rm. 3–C217 Washington, DC 20554

John Branscome, Legal Advisor Wireless Telecommunications Bureau Federal Communications Commission 445 12th St., SW, Rm. 3–C227 Washington, DC 20554

Jennifer Tomchin, Acting Legal Advisor Wireless Telecommunications Bureau Federal Communications Commission 445 12th SL. SW, Rm. 3–C400 Washington, DC 20554 D'wana R. Terry. Chief Public Safety & Private Wireless Division Federal Communications Commission 445 12th SI., SW, Rm. 4–C32 | Washington, DC 20554

Ramona Melson, Deputy Chief (Legal) Public Safety & Private Wireless Division Federal communications Commission 44.5 12th St., SW, Rm. 4–C321 Washington, DC 20554

Herbert W. Zeiler, Deputy Chief (Technical) Public Safety & Private Wireless Division Federal Communications Commission 445 12th St., SW, Rm. 4–C321 Washington. DC 20554

Jeanne Kowalski, Deputy Chief (Public Safety) Public Safety & Private Wireless Division Federal Communications Commission 445 12th Si., SW, Rm. 4–C324 Washington. DC 20554

John Borkowski, Assistant Division Chief Public Safety & Private Wireless Division Federal Communications Commission 445 12th St., SW, Rm. 4–C237 Washington, DC 20554

Michael J. Wilhelm, Legal Advisor Public Safety and Private Wireless Division Federal Communications Commission 445 12th Street, SW, Room 4–C305 Washington, DC 20554

Blaise Scinto. Acting Chief Policy Division Federal Communications Commission 445 12th St., SW. Rin. 3–C133 Washington. DC 20554 Tom Stanley, Chief Engineer Policy Division Federal Communications Commission 445 12th St., SW, Rm. 3–C204 Washington, DC 20554

Walter D. Strack, Chief Economist Policy Division Federal Communications Commission 445 12th St., SW, Rm. 3–C460 Washington, DC 20554

John Schauble, Chicf Policy and Rules Branch Public Safety and Private Wireless Division Federal Communications Commission 445 12th St., SW, Rm. 4–C336 Washington. DC 20554

Scot Stone. Deputy Chief Policy and Rules Branch Public Safety and Private Wireless Division Federal Communications Commission 445 12th St., SW, Rm. 4–B337 Washington, DC 20554

Peter Daronco, Deputy Chief Policy and Rules Branch Public Safety and Private Wireless Division Federal Communications Commission 445 12th St., SW, Rm. 4–C43 | Washington, DC 20554

Ed Thomas. Director Office of Engineering and Technology Federal Communications Commission 445 12th St., SW. Rm. 7–C155 Washington, DC 20554

Peter A. Tenhula, Acting Deputy Bureau Chicf Wireless Telecommunications Bureau Federal Communications Commission 445 12th SL. SW. Rm. 2–C343 Washington, DC 20554 Fred Thomas, Deputy Director Spectrum Policy Task Force Office of Engineering and Technology Federal Communications Commission 445 12th St., SW, Rm. 7–A164 Washington, DC 20554

William Kunze, Chief Commercial Wireless Division Federal Cominunications Commission 445 12th St., SW, Rm. 4–C224 Washington, DC 20554

Qualex, Inc. 445 12th St., SW Washington, DC 20554

7

ALL SERVICE LIST COPIES HAVE BEEN PROVIDED BY U. S. MAIL IN LIEU OF HAND DELIVERY DUE TO NEW FCC SECURITY PROCEDURES